



METHODIST COLLEGE OF ENGINEERING AND TECHNOLOGY

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7.1.4 Water Conservation facilities available in the institution

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Any other relevant information:

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1	Facilities available in the Institution:	01 to 13
	1. Rain water harvesting	
	2. Borewell /Open well recharge	
	3. Construction of tanks and bunds	
	4. Waste water recycling	
	5. Maintenance of water bodies and distribution system	




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1. Rain Water Harvesting (RWH) pits :

Rain Water Harvesting structures and utilization in the campus

Response:

Rainwater collection can assist us in raising the ground water level in light of declining groundwater levels and changing climatic circumstances.

The college features a sizable open mud field where, during the rainy season, water can seep into the ground to some amount. The groundwater can be refilled by using a recharge structure or rainwater collection pit. It can be constructed to aid in water infiltration or to refuel a borewell.

In the institution, established recharge pits are built with layers of rocks at the bottom, followed by gravel and coarse sand at the top. These pits are about three metres deep. Through pipes, water that has accumulated on the roof tops and extra rain is gathered and directed into these holes.

These techniques for collecting rainwater have greatly enhanced the quality of the groundwater. The college used to spend a lot of money on the procurement of water through tankers before implementing these measures. However, the college is not currently spending any money, and the groundwater is sufficient to supply all of the college's needs.

Rain Water Harvesting Pit

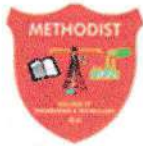


Rainwater runoff from rooftops, parks, highways, open spaces, etc. can be collected, stored, transported, and purified for later use at a location near Block D.

Rainwater runoff from rooftops, parks, highways, open spaces, etc. can be collected, stored, transported, and purified for later use at a location near Block E.



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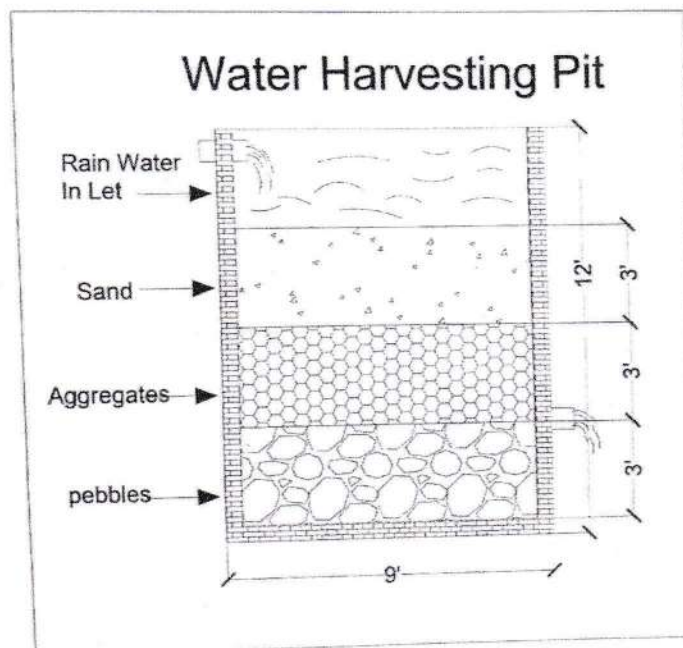
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Dimensions of the water harvesting pit is 11' x 9' x 10'

TOTAL COST ESTIMATION OF THE RAIN WATER HARVESTING PIT

ITEMS	NUMBER REQUIRED	COST FOR SINGLE UNIT	COST FOR TOTAL NUMBER ₹
6" PIPES	3	100	300
BRICKS	500	17	8500
SAND	3 bags	200	600
CEMENT	3 bag	380	380
Iron Mesh	1	2000	2000
Digging Pit	8 labor	700	5600
Boulders, Aggregates Filling Sand	Lumsum		5000
		Total Cost	₹ 23140

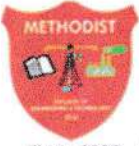
Structure of Rain Water Harvesting Pit



Cross Section of Rain Harvesting Pit



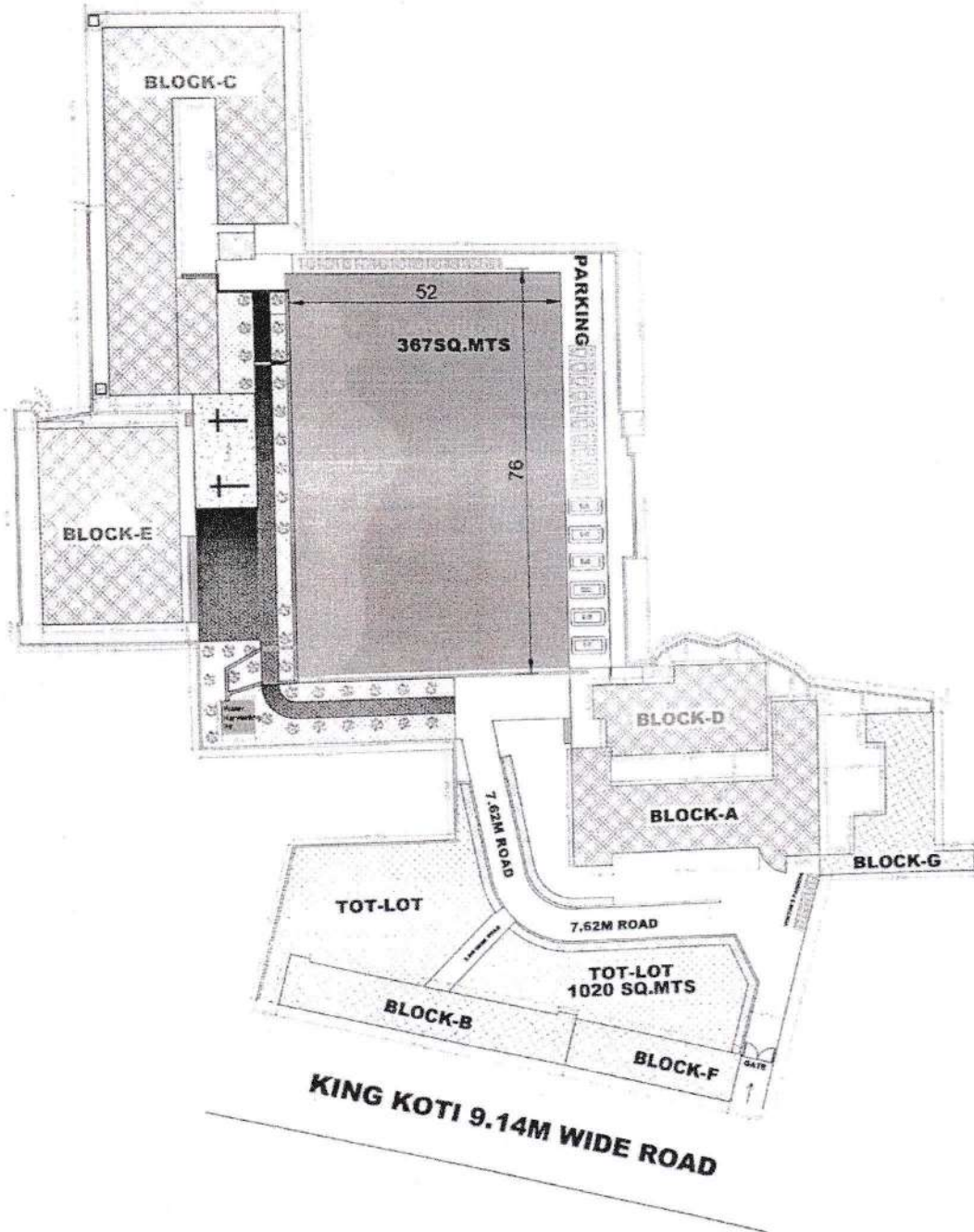
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Plan of Water Harvesting Pit in Campus



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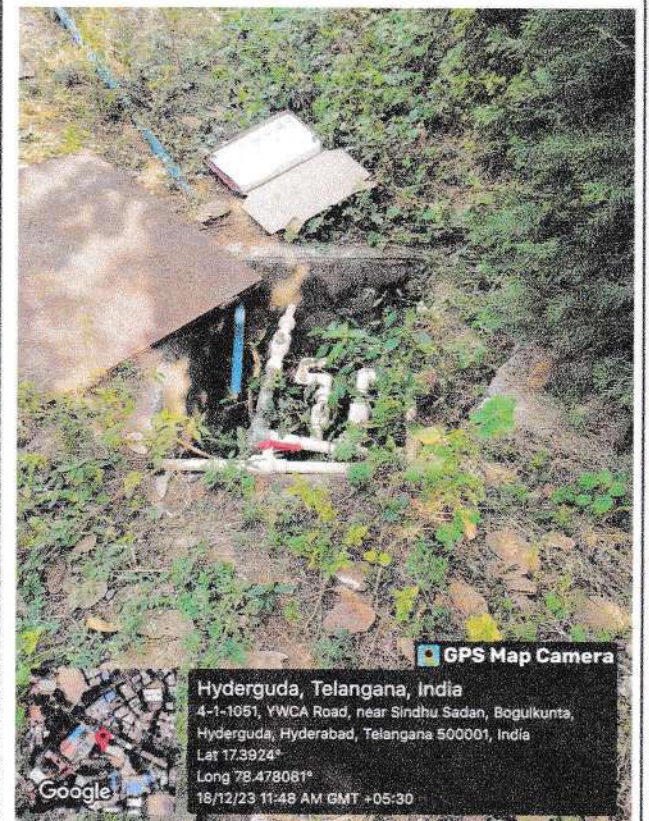
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2. Borewell / Open Well recharge



Borewell in Campus that is 100 to 1500 feet deep and uses a PVC pipe with a diameter of 6 to 12 inches to extract ground water for irrigation.



Borewell in Campus that is 100 to 1500 feet deep and uses a PVC pipe with a diameter of 6 to 12 inches to extract ground water for irrigation.

Total area of the college campus is 20355.68 Sq.mts out of that 14128.4 Sq.mts of total area was developed as academic zones and the balance area 16245.23 Sq.mts is earmarked for greenery and other amenities. The college campus depends on ground water for all its needs and the daily need of water in the campus is around 1,35,000 litres (approx.,).

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3. Construction of tanks and bunds:

Water tanks are used to store water for use in a variety of applications, including drinking water, irrigation agriculture, fire suppression, agricultural farming for both plants and livestock, chemical manufacturing, food preparation, and many others.



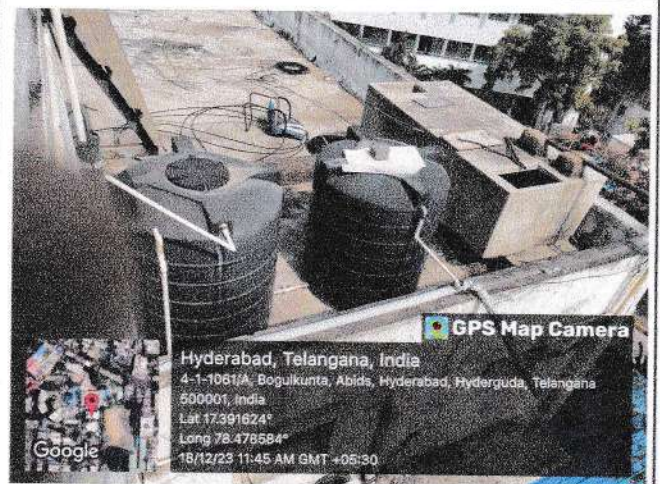
Over Head tank at E Block



Storage Tank for Drinking water at E Block

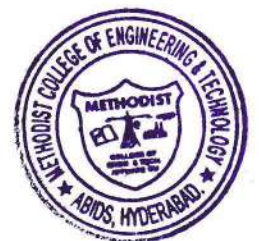


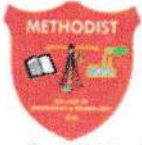
Over Head tank at B Block



Over head tank with root top at A Block

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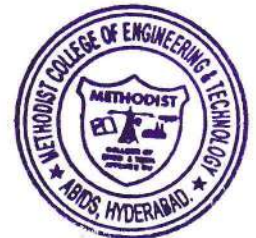
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 <p>Hyderabad, Telangana, India 4-1-917,4-1-917/A, Sultan Bazar, Abids, Hyderabad, Hyderguda, Telangana 500001, India Lat 17.391574° Long 78.4787° 18/12/23 11:44 AM GMT +05:30</p>	 <p>Hyderabad, Telangana, India 4-1-1044, Bogulkunta Rd, Sultan Bazar, Abids, Hyderabad, Hyderguda, Telangana 500001, India Lat 17.391278° Long 78.479524° 18/12/23 11:28 AM GMT +05:30</p>
<p>Over Head tank at D block</p>	<p>Smaller Storage tank for water supply at Block A</p>

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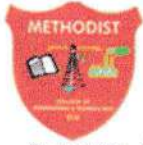
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<p>Smaller Storage tank for water supply at Block B</p>	<p>Smaller Storage tank for water supply at Block c</p>


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Smaller Storage tank for water supply at Block D	Smaller Storage tank for water supply at Block E

4. Waste water recycling

In our institute, the rejected water from R.O. was collected and utilized effectively for campus gardening purposes.


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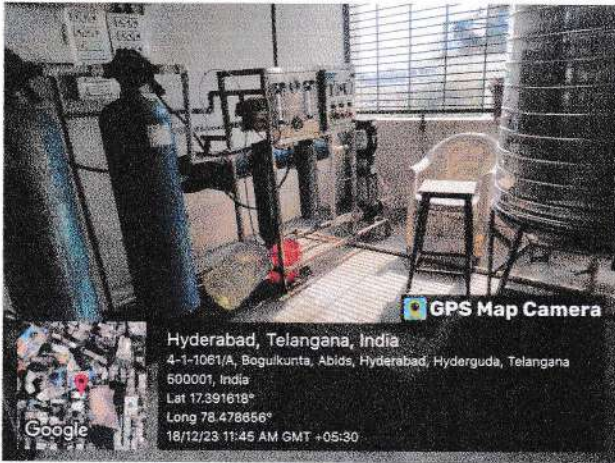




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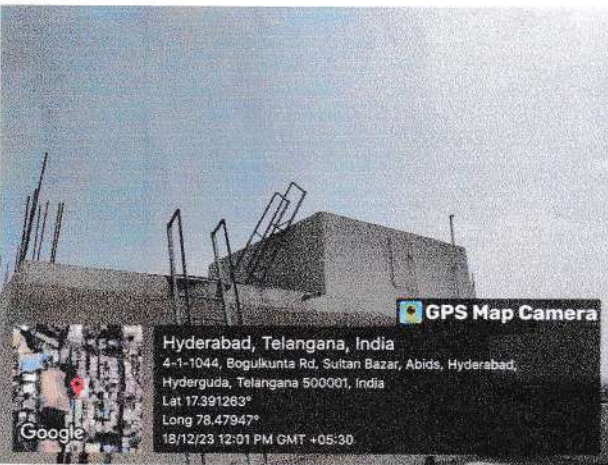
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RO Plant



Harvesting Pit , Excess water used for plants



Partition of wastewater(RO Water) and Bore water



Waste water collection Pit , used for plants

V. K. R.

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<p>Water Purification , Distribution of water for drinking purpose distributed to each floors, mini tanks</p>	<p>Water Purification , Distribution of water for drinking purpose distributed to each floors, mini tanks</p>

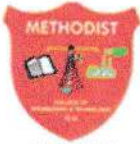
5. Maintenance of water bodies and distribution system in the campus

Total area of the college campus is about nearly 1,70,824 Sq. mts., on that only area of 39,185 Sq. mts. (i.e., 33% on total area) was developed as academic zones and the balance area is about 1,31,639 Sq. mts. (i.e., 77% on total area) was developed as earmarked for greenery. The college campus depends on ground water for all its needs and the daily need of water in the campus is around 1,35,000 liters (approx.). Total water demand is being met with 1 bore well with 600 ft as per the sub soil water position.

All blocks have overhead tanks installed and maintained properly from time to time.


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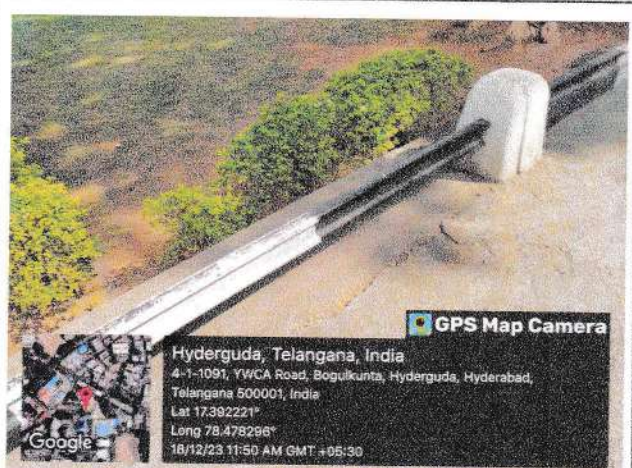
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Common dig for water Distribution System



Water Distribution for plantation



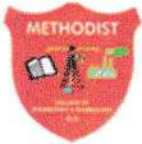
Water Distribution for plantation



Water Distribution for plantation

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<p>Water Distribution System</p>	<p>Store water Collection for Distribution System</p>

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Overhead tank with Distribution of Water



Water Distribution System

Pumps are used to transfer groundwater into storage tanks scattered throughout the site. On campus, there are eighteen overhead storage tanks. A carefully constructed pipe network is used to disperse the water. Water for all other uses is provided through a different set of distribution pipes than the water used for drinking after it has undergone treatment in the RO plant. Civil and water works committee carefully monitors the entire distribution system to guarantee that there are no leaks or wastages of priceless water through couplings, valves, etc.


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